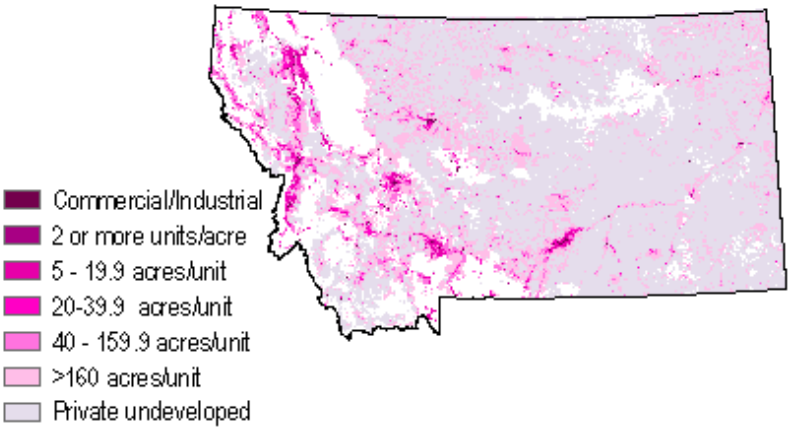
HOUSING DENSITY BY DECADE



SUMMARY: This layer represents housing density projections for Montana. The projections reflect housing density by decade, from 1970 to 2020. This layer allows users to visualize areas of the state that are projected to grow faster than others. The housing density projection layers can be overlaid with aquatic and terrestrial data layers. The metric is divided into six housing densities and a seventh category depicting commercial/industrial development.

MEASUREMENT UNIT: Aggregation of data from Census blocks by computing the average within a one-mile section.

DATA SOURCE(S) / QUALITY: The data are based upon: (1) 2000 US Census datasets for housing units and "year housing built" by Census block, and housing unit per population ratio and population projections per county; (2) the public/protected lands data layer from Montana's Natural Resource Information System (September 18, 2008); (3) county-level population projections from a demographic-econometric model (US EPA Integrated Climate and Land Use projections) and (4) commercial/ industrial land in 2000 according to the 2001 National Land Cover Data (US EPA).

DATA SOURCES
- [x] Survey data – counts or estimates
- [ ] Survey data – categorical (e.g. presence/absence)
- [ ] Expert opinion based on observation

DATA EXTRAPOLATION TECHNIQUE USED
- [ ] None
- [ ] Modeling of habitat-species associations (deductive)
- [x] Statistical modeling (inductive)
- [ ] Extrapolation to habitat unit (e.g. stream section)
- [ ] Extrapolation based on expert opinion

METHODS: Housing density projections were generated by a spatially explicit regional growth model (SERGoM) developed by Dr. David Theobald, Colorado State University. SERGoM assumes that: (1) future growth patterns will be similar to those found in the past decade, and (2) areas of future growth are likely to be near current high growth areas. The model converted population growth projections to projected number of new housing units. Urban, suburban, exurban, and rural density classes were each assigned a location-specific average growth rate. New housing units were spatially allocated based on these locally determined growth rates. The distribution of new housing units was adjusted according to accessibility (travel time) to the nearest urban core area. The new housing density was added to the current housing density. Public lands, protected private lands, and water bodies were removed from the set of potential development locations.

FINAL CATEGORIZATION: Twelve housing density categories were condensed into six. The commercial/industrial category was not adjusted.

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